STATE OF TENNESSEE

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Memorandum

To: Honorable Bill Haslam, Governor

Honorable Tre Hargett, Secretary of State

Honorable Justin P. Wilson, Comptroller of the Treasury

Honorable David H. Lillard, Jr., Treasurer

Honorable Larry Martin, Commissioner of Finance and Administration

From: William Wood, Budget Analyst, Comptroller of the Treasury

Date: April 15, 2015

Re: Economic Report to Governor

Tennessee Code Annotated (TCA) §9-4-5202 directs the State Funding Board (the Board) to secure estimates of economic growth from the Tennessee econometric model published by the University of Tennessee's Center for Business and Econimc Research (CBER) in its annual Economic Report to the Governor. CBER's report provides an overview of the current estimates of economic growth for the United States and Tennessee. The estimates include data for economic indicators such as nominal personal income, employment, inflation, consumer spending, and the housing market. TCA §9-4-5202 also requires the Board to comment on the "reasonableness" of CBER's estimate of the rate of growth of Tennessee's economy. For the purposes of this report, the rate of growth for Tennessee's economy is based on the percentage increase in estimated Tennessee personal income, pursuant to TCA §9-4-5201. The Comptroller's staff assists the Board in determining the reasonableness of the Economic Report by evaluating current economic conditions and trends based on reviews of commonly referenced sources in economic forecasting.

Conclusion: Based on a review of various economic forecasts, trends in the world economy, and historical Tennessee growth, the Economic Report's forecasts for Tennessee nominal personal income growth of 4.00 percent for fiscal year 2015, 4.24 percent for calendar year 2015, and 4.38 percent for calendar year 2016 are not unreasonable.

Staff Commentary

TENNESSEE NOMINAL PERSONAL INCOME

The Economic Report forecasts growth of 4.24 percent for calendar year 2015 and 4.38 percent for calendar year 2016. The forecasted growth for fiscal year 2015 is 4.00 percent.[1] The revised forecast for calendar year 2014 was 3.70 percent, and represents a reduction of .50 percent. Exhibit 1 provides a table summarizing the 2015 Economic Report's forecast year estimates.

Exhibit 1: Estimated Tennessee Personal Income Growth

Forecast Year	Report Year 2015
Fiscal Year 2016	4.40%
Fiscal Year 2015	4.00%
Calendar Year 2016	4.38%
Calendar Year 2015	4.24%
Calendar Year 2014	3.70%

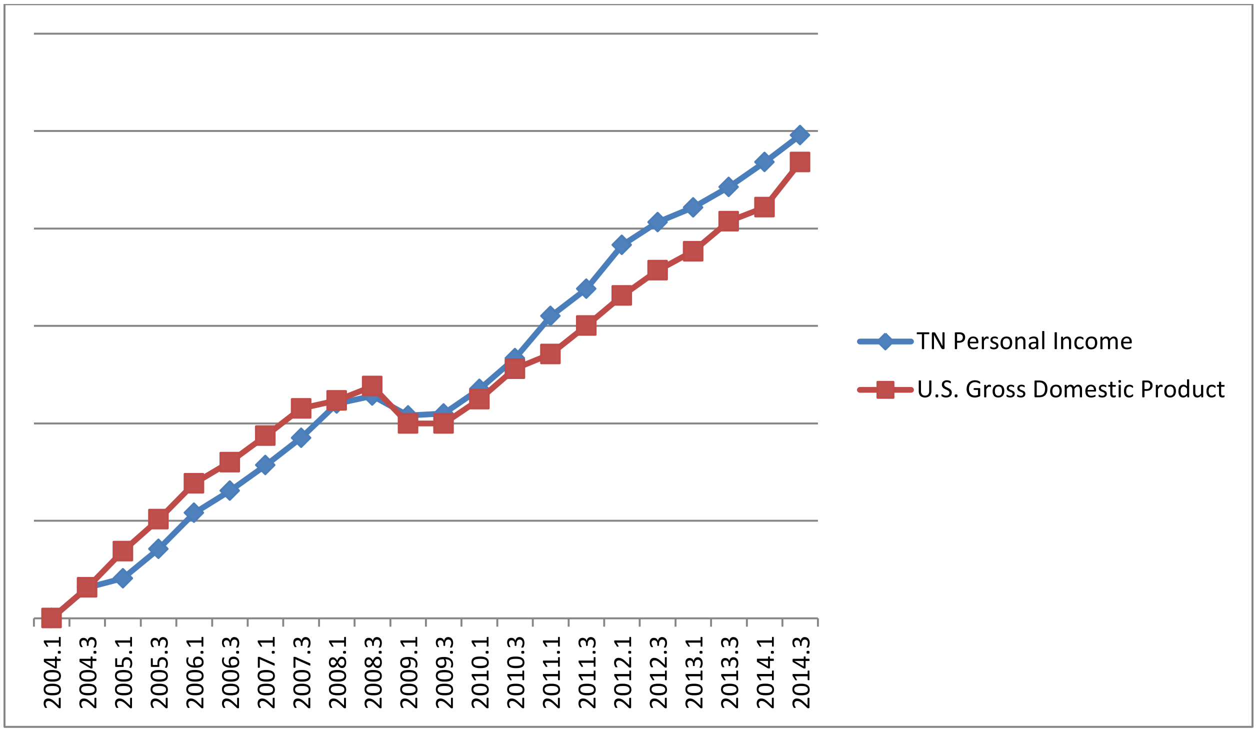
Source: Matthew N. Murray, et al., UT Center for Business and Economic Research, *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook,* January 2015, Table 1: Selected U.S. and Tennessee Economic Indicators, Seasonally Adjusted.

COMPARISON OF THE ECONOMIC REPORT TO LEADING ECONOMIC FORECASTING SOURCES

Historically, the rate of growth for Tennessee nominal personal income has closely tracked the growth rate for the gross domestic product (GDP) of the nation. Exhibit 2 shows the relationship between growth for Tennessee personal income and growth for the United States GDP over the past decade.

[1] Matthew N. Murray, et al., UT Center for Business and Economic Research (CBER), *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook*, January 2015, p.ix.

Exhibit 2: Relative Growth of U.S. GDP and Tennessee Personal Income



Source: United States Bureau of Economic Analysis, www.bea.gov (accessed January 2015).

Because the relationship between the indicators presented is closely correlated and few other agencies produce estimates of growth in Tennessee personal income, for the purposes of this commentary, staff compares the GDP estimates produced by CBER with the GDP estimates produced by other economic forecasting agencies. Given that growth in GDP is expected to be positive, staff expects that growth in Tennessee personal income will be positive as well.

United States GDP increased at an annual rate of 2.4 percent in 2014. The increase reflected positive contributions from personal consumption expenditures (PCE), nonresidential fixed investment, exports, private inventory investment, state and local government spending, and residential fixed investment; these were partly offset by a negative contribution from federal government spending and the trade deficit.[2] The economy decelerated in the 4th quarter of 2014 from its 5.0 percent growth rate in the 3rd

[2] Bureau of Economic Analysis, National Income and Product Accounts, Gross Domestic Product, 4th Quarter and Annual, January 30, 2015.

quarter. The deceleration primarily reflected an upturn in imports, a downturn in federal government spending, and slower growth in nonresidential fixed investment.[3]

Exhibit 3 includes data from the Economic Report. Selected indicators forecasting economic growth for the United States and Tennessee are summarized below.

Exhibit 3: Economic Report Forecast Summary – By Calendar Year

Indicator	2015	2016
US Real GDP Growth	3.10%	2.68%
TN Real GDP Growth	2.69%	2.59%
US Nominal Personal Income Growth	4.35%	5.01%
TN Nominal Personal Income Growth	**4.24%**	**4.38%**
US Unemployment Rate	5.50%	5.30%
TN Unemployment Rate	6.50%	6.20%
Consumer Price Index	0.12%	2.35%

Source: Matthew N. Murray, et al., UT Center for Business and Economic Research, *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook,* January 2015, Table 1: Selected U.S. and Tennessee Economic Indicators, Seasonally Adjusted.

REAL GDP

The Economic Report forecasts real GDP growth of 3.10 percent for calendar year 2015 and 2.68 percent for calendar year 2016. Leading economic forecasting sources also expect modest growth levels to continue. Exhibits 4 and 5 compare the Economic Report's forecast with central bank and government forecasts and non-government economists' forecasts.

[3] Ibid.

Exhibit 4: Central Bank and Government Forecasts:

U.S Real GDP Growth (%) – by Calendar Year

Forecaster	CY 2015	CY 2016	Date
Congressional Budget Office	2.9	2.9	January 2015
Fannie Mae	3.1	2.5	January 2015
Freddie Mac	3.0	3.0	January 2015
World Bank	3.2	3.0	January 2015
International Monetary Fund	3.6	3.3	January 2015
Federal Reserve Bank	2.8	2.8	December 2014
L.A. Econ Development Corp.	3.0	3.0	February 2015
High	3.6	3.3	
Median	3.0	3.0	
Low	2.8	2.5	
CBER	3.1	2.7	January 2015

When compared to the forecasts of the Economic Report, the median forecasts of the central bank and government economists show a slightly lower rate of growth in real GDP for calendar year 2015 and a slightly higher rate of growth for calendar year 2016. The Economic Report's forecasts for calendar years 2015 and 2016 are within the range of the comparison sources.

Exhibit 5: Non-Government Forecasts

U.S. Real GDP Growth (%) – by Calendar Year

Forecaster	CY 2015	CY 2016	Date
Citibank	3.6	3.0	February 2015
The Conference Board	2.9	2.5	January 2015
Wells Fargo	3.1	2.9	January 2015
PNC	3.5	2.8	January 2015
Royal Bank of Canada	3.3	2.9	December 2014
Raymond James	3.2	2.7	January 2015
Deutsche Bank	3.7	3.1	February 2015
High	3.7	3.1	
Median	3.3	2.9	
Low	2.9	2.5	
CBER	3.1	2.7	January 2015

In comparison to the Economic Report's forecasts, the median of the non-governmental outlook shows a slightly higher rate of real GDP growth for 2015 and 2016. Nevertheless, the Economic Report's forecast for real GDP growth for calendar years 2015 and 2016 is within the range provided by comparison forecasts.

FORECAST RISKS

Economic forecasts contain an element of risk. Unexpected events or changes in the relationships of underlying explanatory data may decrease a model's ability to provide useful estimates. Some of these risks factors include, but are not limited to:

- Uncertain growth prospects in Europe
- Government shutdown
- Household formation drops
- Exports decrease

European Growth Prospects

While much of the world economy is struggling to maintain positive economic growth, the U.S. grew by an estimated 2.4 percent in 2014. For comparison, the GDP of the Eurozone is estimated to have grown by only 0.9 percent,[4] while Germany, its biggest economy, expanded by 0.7 percent in the fourth quarter. The European Commission is forecasting growth in 2015 of 1.3 percent, which would be the euro area's best outcome since 2010. France and Italy, the second and third largest economies, stagnated in the final quarter of the year. Greece's return to the headlines has the potential to unsettle markets. Fears continue to grow that the Eurozone may fall into deflation.[5]

Government Shutdown

The federal government finds itself in familiar territory this year with another debt limit fight. The U.S.'s top finance official said the nation's debt ceiling will be reinstated in March with a limit of approximately

[4] Ibid.
[5] *The Economist*, "Taking Europe's Pulse," February 13, 2015.

$18.1 trillion and would begin taking "extraordinary measures" to finance the government on a temporary basis. The Treasury Department is expected to have enough "extraordinary measures" and cash on hand to meet all obligations in full and on time through some point in the fourth quarter of 2015. This coincides with a new federal fiscal year and budget. The U.S. is up against the debt ceiling despite the fact that the government pulled in record amounts of tax receipts last year. The Treasury secretary emphasized that "increasing the debt limit does not authorize new spending, but simply allows the government to pay for expenditures Congress has already approved". The Senate Majority Leader has said that the Republican controlled Congress won't allow the government to default as the Treasury Department quickly approaches the debt ceiling.

Household Formation Drops

Fewer new households formed means less demand for houses, leading to persistently low house prices and, in turn, a slump in new residential construction. Although data through the end of 2012 suggest that new housing starts and permits have begun to recover, they remain far below their long-run trends. This persistent weakness in the housing market has also contributed to the slow pace of the overall economic recovery. For example, the direct contribution of residential investment to annualized GDP growth sometimes reached 1.0 to 1.5 percent in recoveries prior to the mid-1980s. During the two years subsequent to the end of the recession in the second quarter of 2009, the contribution of residential investment to GDP averaged close to zero.[6]

Population gains form the backbone of household formation growth. From 2003 to 2013, an estimated 11 million net new households appeared in the U.S., shy of the 12.6 million that formed from 1993 to 2003. In the last two years, the pace of formations has accelerated, albeit slowly.[7] According to population estimates by the U.S. Census Bureau, the pace of population growth has slowed. Housing starts were considerably lower than expected in 2014.

Exports Decrease

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[6] Federal Reserve Board, *The Long and the Short of Household Formation,* p. 2, April 2013.
[7] Moody's Analytics, *U.S. Housing Outlook,* January 2014.

While the U.S. economy appears to be gaining steam the world economy continues to limp along. This slow world growth and dollar appreciation are projected to result in sluggish U.S. external demand growth. According to the Manufactures Alliance for Productivity and Innovation, the pace of U.S. import growth will jump to 6.9 percent. As a result, the U.S. current account deficit is expected to widen to $360 billion in 2015.[8]

CONSUMER SPENDING

GDP is composed of personal consumption expenditures, investment, government purchases, and the balance of international trade (exports minus imports). Personal consumption expenditures, the largest component of U.S. GDP, accounted for 68 percent of GDP in 2014. Overall, inflation-adjusted consumer spending grew by 2.5 percent in 2014, compared to 2.4 percent in 2013 and 1.8 percent in 2012. Increases in consumer spending accounted for 1.7 percentage points of the 2.4 percent GDP growth in 2014.[9] The leading causes of growth in consumer spending are disposable income growth, consumer confidence, and declines in the unemployment rate. The largest contributor to disposable income growth was the decrease in oil prices. Oil fell from $109 per barrel in the fourth quarter of 2013, to a low of $45 in January 2015. Consumers benefit from this fall in prices through lower prices at the pump. Kiplinger's reports that "consumers are energized by the availability of more jobs and by lower energy prices, which are putting more money into their pockets to shell out for other goods and services. Spending by consumers in the fourth quarter of 2014 grew at the fastest rate in eight years."[10]

The minutes of the U.S. Federal Open Market Committee meeting on January 27 and 28, 2015, note a positive expectation of growth.

> Real personal consumption expenditures (PCE) appeared to have risen at a robust pace over the second half of 2014. Data on spending in the third quarter were revised up, and the components of nominal retail sales used to construct estimates of PCE rose briskly in the fourth quarter. Light motor vehicle sales in the fourth quarter maintained their robust third-quarter pace. Important factors influencing household spending remained supportive of further solid gains in real PCE early this year. Real disposable personal income increased in November, since then, continued declines in energy prices likely raised the purchasing power of households' incomes.

[8] Manufacturers Alliance for Productivity and Innovation, *Total U.S. Export and Total U.S. Import Growth,* February 2014.
[9] CBER, Economic Report to the Governor, 2015, p. 2.
[10] Kiplinger, *Kiplinger's Economic Outlook,* February 2015.

> Households' net worth likely increased as home values and equity prices advanced, and consumer sentiment, as measured by the Thompson Reuters/University of Michigan Surveys of Consumers, moved up in early January to its highest level in more than a decade.[11]

UNEMPLOYMENT

Current Conditions and Forecasts

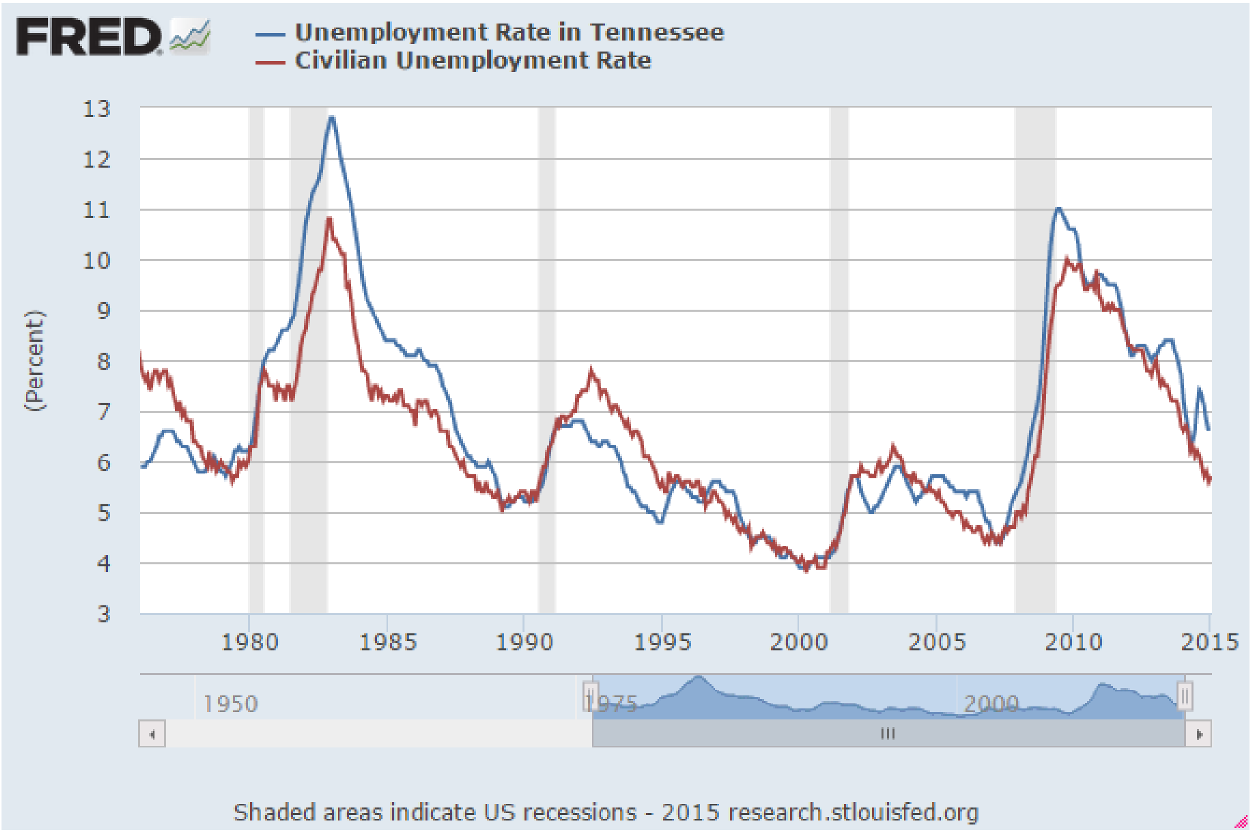
Tennessee's economy continued to grow in 2014 as the economic recovery persists. Nonfarm employment increased by 1.9 percent in 2014, representing job gains of more than 51,000, and is expected to grow by 1.8 percent in 2015. The state unemployment rate fell from 8.2 percent in 2013 to 6.9 percent in 2014. However, Tennessee's unemployment rate still rests above the national rate. For 2015, the Economic Report forecasts a 6.5 percent unemployment rate for Tennessee, compared to a U.S. rate of 5.5 percent. The 2016 forecast for Tennessee shows an unemployment rate of 6.2 percent while the national rate is forecast to be 5.3 percent. Exhibit 6 shows a comparison of national and state unemployment rates from the Federal Reserve Bank of St. Louis.

Perhaps the most important economic development in 2014 was the improving labor market. The national economy added 2.5 million nonfarm jobs in 2014, bringing total payrolls up to 138.9 million. This makes 2014 the first year that nonfarm payrolls reached, and exceeded, their 2007 prerecession level of 137.9 million. Tennessee had a similar experience in 2014. Nonfarm employment totaled 2,802,700, marking the first time that nonfarm employment surpassed its 2007 pre-recession peak of 2,797,800.

Kiplinger's also forecasts a tightening labor market. The expectation is for monthly job gains in 2015 to average 250,000 per month. In January 2015 companies hired 257,000 more workers, with strong gains being made in health care, food service, retail, and construction.[12]

Exhibit 6: Federal Reserve Bank of St. Louis: Unemployment Rate Comparison

[11] Federal Open Market Committee, *Minutes of the Federal Open Market Committee,* January 27-28, 2015.
[12] Kiplinger, *Kiplinger's Economic Outlook,* February 2015.



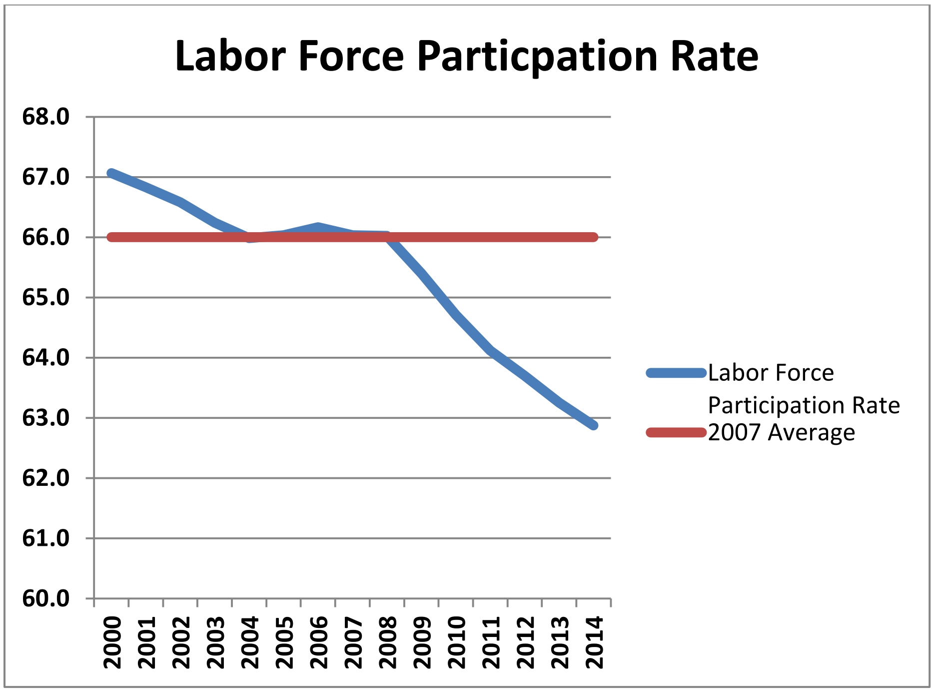
<u>Labor Force Participation Rate</u>

The unemployment rate can be deceptive because it measures the number of people not holding jobs compared to the total labor force. The labor force does not include unemployed people who are not looking for work. Therefore, the unemployment rate can be over- or underestimated depending on the number of individuals who enter or exit the labor force due to their perceptions of succeeding in the search for employment.

The falling labor force participation rate remains a cause for concern. It implies that part of the reason the unemployment rate is falling may have to do with discouraged unemployed workers who stop looking for work and are no longer considered unemployed. In 2014 the labor force participation rate fell to 61.4 percent, the lowest since 1977. In 1995, the labor force participation rate stood at 65.0 percent. The Economic Report forecasts this rate to continue to drift lower.

The Economic Policy Institute has attempted to show how the unemployment rate understates the weakness of job opportunities in today's labor market. It projects that the unemployment rate would be 9.0 percent if the labor force participation rate were closer to normal levels.[13] The official unemployment rate stands at 5.7 percent. The difference between these two estimates is significant and the possible effects on consumer confidence may be worth considering.

Exhibit 7: Labor Force Participation Rate: Bureau of Labor Statistics



INFLATION

The most popular measure of the aggregate level of prices in the economy is the Consumer Price Index or the CPI. As measured by the CPI, overall prices rose by only 1.6 percent in 2014, compared to 1.5 percent in 2013 and 2.1 percent in 2012. Low energy and commodity prices are the two main factors believed to put downward pressure on overall inflation. Core-CPI, which excludes prices of energy and food, increased by 1.8 percent last year.

[13] Economic Policy Institute, *The Missing Part of the Unemployment Story,* February 2015.

The Federal Reserve has kept the federal funds rate low (below 0.25 percent) for 24 consecutive quarters; the expected mid-2015 rate increase is dependent on market conditions.

> The Committee agreed to maintain the target range for the federal funds rate at 0 to 0.25 percent and to reaffirm the indication in the statement that the Committee's decision about how long to maintain the current target range for the federal funds rate would depend on its assessment of actual and expected progress toward its objectives of maximum employment and 2.0 percent inflation.[14]

Although inflation does not appear to be an imminent concern for the U.S. economy, there is some concern that the extremely low inflation the U.S. is experiencing could lead to deflation. Most economists agree that deflation can be much more harmful to the economy than stable and moderate inflation. When everyone expects prices and wages to be lower in the future, consumers slow spending and firms slow hiring and investment.[15]

TRADE

The net effect of trade (imports minus exports) is a component of GDP. In 2014, the U.S. recorded a trade deficit of $449 billion in inflation-adjusted terms, 3 percent of GDP. In 2006, prior to the recession, the trade deficit made up 10 percent of GDP or $794 billion.[16] While higher exports increase the GDP of the U.S., increased imports are beneficial to both developed and emerging economies. In the third quarter of 2014, a smaller trade deficit added 0.8 percentage points to GDP, or nearly 20 percent of the growth. Because of the strength of the U.S. dollar, it seems unlikely that the U.S.'s good trade news will continue. Between July 2014 and February 2015, the U.S. dollar has been up almost 18 percent compared to a basket of international currencies.[17] This increase makes it harder for U.S. companies to sell their goods.

HOUSING MARKET

The housing market is expected to continue to improve, with 1.163 million housing starts expected in 2015 compared to 994,000 in 2014. Sales of existing homes are expected to reach 5.4 million, the highest since the recession but still below 2006 levels. Sales of new homes are expected to reach

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[14] Federal Open Market Committee, *Minutes of the Federal Open Market Committee,* January 27-28, 2015.
[15] CBER, Economic Report to the Governor, 2015, p. 1.
[16] CBER, Economic Report to the Governor, 2015, p. 6.
[17] Federal Reserve Bank of St. Louis, *Trade Weighted U.S. Dollar Index,* Accessed February 2015.

481,000, making 2015 the fourth year of consecutive growth in new home sales. However, like the sales of existing homes, this level remains significantly lower than prerecession levels.[18] Home prices are also expected to increase in 2015. Existing and new home prices are expected to increase 4.2 and 4.5 percent, respectively.

Kiplinger forecasts that home prices nationally will rise by 3.5 percent in 2015. This falls on the low end of the historical range of 3 to 5 percent annual appreciation. Kiplinger also forecasts existing home sales to increase 8 percent and new home sales to rise 25 percent in 2015.[19]

According to data from the Tennessee Housing Development Authority, Tennessee home sales increased 21.87 percent from 2012 through 2013. This compares to an increase of 23.06 percent from 2011 through 2012.

CONCLUSION

Based on this review, the Economic Report's forecast of 4.00 percent nominal personal income growth for fiscal year 2015, 4.24 percent for calendar year 2015, and 4.38 percent for calendar year 2016, does not appear unreasonable.

[18] CBER, Economic Report to the Governor, 2015, p. 12.
[19] Kiplinger, *Housing Outlook, 2015,* January 2015.